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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DUNWOODY, AARON M

ART UNIT	PAPER NUMBER
3679	

DATE MAILED: 04/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/753,122	PROCTOR ET AL.
Examiner	Art Unit	
Aaron M Dunwoody	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 15 January 2003 .

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-37 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-29, 31-35 and 37 is/are rejected.  
7)  Claim(s) 30 and 36 is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)  The proposed drawing correction filed on \_\_\_\_\_ is: a)  approved b)  disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)  The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a)  The translation of the foreign language provisional application has been received.

15)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 13 6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the member being coupled to the first duct by a hinge must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claims 27 and 33 are objected to because of the following informalities:

Claim 33, line 1, change from "said the groove" to "said groove".

Claim 27 recites, "so that when the first duct is inserted into the second duct and the member is in the groove a seal and a resistance to a separation of the first duct", but it is not clear to the Examiner what this statement means.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-23, 25, 27-29, 31-35 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 3290770, Silverman et al.

In regards to claim 1, Silverman et al discloses a duct joining system, comprising a first duct (101) having a male end; a flexible seal and locking mechanism (117 or 118) retained on the male end of the first duct; and a second duct (100) having a female end having a first cross sectional area and a first bead of a second cross sectional area that is greater than the first cross sectional area, the second duct may be joined to the first duct by sliding the female end over the male end, the flexible seal and locking mechanism being compressed within the first cross sectional area, the flexible seal and locking mechanism expanding into the first bead to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and the second duct greater than a resistance to the joining of the first duct and the second duct.

In regards to claim 2, Silverman et al discloses the flexible seal and locking mechanism being a flexible gasket held on the male end at an angle relative to normal and away from the end of the first duct.

In regards to claim 3, Silverman et al discloses the resistance to the separation of the first duct and the second duct being at least three times greater than the resistance to the joining of the first duct and the second duct.

In regards to claim 4, Silverman et al discloses a second bead positioned after the flexible seal and locking mechanism that acting as a stop bead to ensure the second duct is properly positioned with the first duct when the first duct and the second duct are joined.

In regards to claim 5, Silverman et al discloses a third bead on the first duct located between the flexible seal and locking mechanism and the end of the first duct, wherein the third bead has a diameter that is less than the diameter of the second bead.

In regards to claim 6, Silverman et al discloses one of the first duct and the second duct being a fitting.

In regards to claim 7, Silverman et al discloses a duct joining system comprising a first duct having a female end; a flexible seal and locking mechanism retained within the female end of the first duct; and a second duct having a male end having a first cross sectional area and a first bead of a second cross sectional area that is less than the first cross sectional area, the second duct may be joined to the first duct by sliding the female end over the male end, the flexible seal and locking mechanism being compressed by the first cross sectional area, the flexible seal and locking mechanism expanding into the first bead to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and the second duct greater than a resistance to the joining of the first duct and the second duct.

In regards to claim 8, Silverman et al discloses the flexible seal and locking mechanism being a flexible gasket held on the female end at an angle relative to normal and away from the end of the first duct.

In regards to claim 9, Silverman et al discloses the resistance to the separation of the first duct and the second duct being at least three times greater than the resistance to the joining of the first duct and the second duct.

In regards to claim 10, Silverman et al discloses a second bead positioned after the flexible seal and locking mechanism that acting as a stop bead to ensure the second duct is properly positioned with the first duct when the first duct and the second duct are joined.

In regards to claim 11, Silverman et al discloses a third bead on the first duct located between the flexible seal and locking mechanism and the end of the first duct, wherein the third bead has a diameter that is greater than the diameter of the second bead.

In regards to claim 12, Silverman et al discloses one of the first duct and the second duct being a fitting.

In regards to claim 13, Silverman et al discloses a duct joining system comprising a first duct having a male end; a flexible seal and locking mechanism retained on the male end of the first duct; and a flexible duct that may be joined to the first duct by sliding the flexible duct over the flexible seal and locking mechanism, the flexible seal and locking mechanism expanding within the flexible duct to form both a seal and a

mechanical lock that provides resistance to the separation of the first duct and the flexible duct greater than a resistance to the joining of the first duct and the flexible duct.

In regards to claim 14, Silverman et al discloses the flexible seal and locking mechanism being a flexible gasket held on the male end at an angle relative to normal and away from the end of the first duct.

In regards to claim 15, Silverman et al discloses the resistance to the separation of the first duct and the second duct being at least three times greater than the resistance to the joining of the first duct and the second duct.

In regards to claim 16, Silverman et al discloses a bead on the first duct located between the flexible seal and locking mechanism and the end of the first duct.

In regards to claim 17, Silverman et al discloses the first duct being a fitting.

In regards to claim 18, Silverman et al discloses an apparatus comprising a first duct; a second duct, wherein a portion of the first duct is inserted into a portion of the second duct; and means for providing a seal and a mechanical connection between the first duct and the second duct when the portion of the first duct is inserted into a portion of the second duct.

In regards to claim 19, Silverman et al discloses the second duct having a raised bead into which the means is seated to form the seal and the mechanical connection when the portion of the first duct is inserted into the portion of the second duct.

In regards to claim 20, Silverman et al discloses the first duct having a depressed bead into which the means is seated to form the seal and the mechanical connection when the portion of the first duct is inserted into the portion of the second duct.

In regards to claim 21, Silverman et al discloses the means being a flexible gasket.

In regards to claim 22, Silverman et al discloses the first duct having a first bead, the flexible gasket being mounted closer to the front of the first duct than the first bead, the flexible gasket having an angle relative to normal of the first duct.

In regards to claim 23, Silverman et al discloses the first bead comprising a circumferential groove in the second duct that has the second cross sectional, and the flexible seal and locking mechanism expands into the circumferential groove to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and the second duct greater than the resistance to the joining of the first duct and the second duct.

In regards to claim 25, Silverman et al discloses in the first bead comprising a circumferential groove in the second duct, and the flexible seal and locking mechanism expands into the circumferential groove to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and the second duct greater than the resistance to the joining of the first duct and the second duct.

In regards to claim 27, Silverman et al discloses a duct joining system comprising a first duct including a member disposed on an exterior surface of the first duct about a cross-section thereof; and a second duct including a groove extending outward from an interior surface of the second duct about a cross-section thereof, so that when the first duct is inserted into the second duct and the member is in the groove a seal and a resistance to a separation of the first duct and the second duct greater than a resistance

to the insertion of the first duct into the second duct is provided by the member and the groove.

In regards to claim 28, Silverman et al discloses the member comprising a flexible gasket that is at an angle relative to a normal of the first duct.

In regards to claim 29, Silverman et al discloses a stop bead on the exterior surface of the first duct.

In regards to claim 31, Silverman et al discloses one of the first duct and the second duct being a fitting.

In regards to claim 32, Silverman et al discloses a duct joining system comprising a first duct including a member on an exterior surface thereof, the member having a height from the exterior surface; and a second duct including a groove extending outward from an internal surface thereof, the groove having a depth from an interior surface thereof, wherein the depth of the groove and the height of the member are selected so that when the first duct is inserted into the second duct and the member is in the groove, a seal and a resistance to a separation of the first duct and the second duct greater than a resistance to the insertion of the first duct and the second duct is provided by the member and the groove.

In regards to claim 33, Silverman et al discloses the groove comprising a circumferential groove, and the member flexes into the circumferential groove to form both a seal and a mechanical lock that provides the resistance to the separation of the first duct and the second duct greater than the resistance to the insertion of the first duct into the second duct.

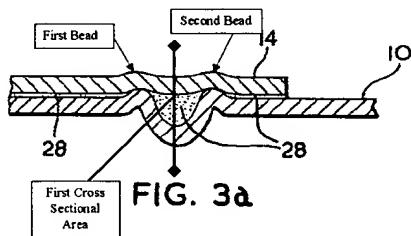
In regards to claim 34, Silverman et al discloses the member comprising a flexible gasket that is at an angle relative to a normal of the first duct.

In regards to claim 35, Silverman et al discloses the member flexes into the groove.

In regards to claim 37, Silverman et al discloses one of the first duct and the second duct being a fitting.

Claims 1-4, 6, 13, 14 and 16-22 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 3208136, Joslin.

In regards to claim 1, Joslin discloses a duct joining system, comprising a first duct (10) having a male end; a flexible seal and locking mechanism (28) retained on the male end of the first duct (after insertion); and a second duct (12) having a female end having a first cross sectional area and a first bead of a second cross sectional area that is greater than the first cross sectional area (see figure 3a below),



the second duct may be joined to the first duct by sliding the female end over the male end, the flexible seal and locking mechanism being compressed within the first cross sectional area, the flexible seal and locking mechanism expanding into the first bead to form both a seal and a mechanical lock that

provides resistance to the separation of the first duct and the second duct greater than a resistance to the joining of the first duct and the second duct.

In regards to claim 2, Joslin discloses the flexible seal and locking mechanism being a flexible gasket (after solidification) held on the male end at an angle relative to normal and away from the end of the first duct.

In regards to claim 3, Joslin discloses the resistance to the separation of the first duct and the second duct being at least three times greater than the resistance to the joining of the first duct and the second duct.

In regards to claim 4, Joslin discloses a second bead (see figure 3a above) positioned after the flexible seal and locking mechanism that acts as a stop bead to ensure the second duct is properly positioned with the first duct when the first duct and the second duct are joined.

In regards to claim 6, Joslin discloses one of the first duct and the second duct being a fitting.

In regards to claim 13, Joslin discloses a duct joining system comprising a first duct having a male end; a flexible seal and locking mechanism retained on the male end of the first duct; and a flexible duct that may be joined to the first duct by sliding the flexible duct over the flexible seal and locking mechanism, the flexible seal and locking mechanism expanding within the flexible duct to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and the flexible duct greater than a resistance to the joining of the first duct and the flexible duct.

In regards to claim 14, Joslin discloses the flexible seal and locking mechanism being a flexible gasket held on the male end at an angle relative to normal and away from the end of the first duct.

In regards to claim 16, Joslin discloses a bead on the first duct located between the flexible seal and locking mechanism and the end of the first duct.

In regards to claim 17, Joslin discloses the first duct being a fitting.

In regards to claim 18, Joslin discloses an apparatus comprising a first duct; a second duct, wherein a portion of the first duct is inserted into a portion of the second duct; and means for providing a seal and a mechanical connection between the first duct and the second duct when the portion of the first duct is inserted into a portion of the second duct.

In regards to claim 19, Joslin discloses the second duct having a raised bead into which the means is seated to form the seal and the mechanical connection when the portion of the first duct is inserted into the portion of the second duct.

In regards to claim 20, Joslin discloses the first duct having a depressed bead into which the means is seated to form the seal and the mechanical connection when the portion of the first duct is inserted into the portion of the second duct.

In regards to claim 21, Joslin discloses the means being a flexible gasket.

In regards to claim 22, Joslin discloses the first duct having a first bead, the flexible gasket being mounted closer to the front of the first duct than the first bead, the flexible gasket having an angle relative to normal of the first duct.

Claims 13, 14 and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 2693378, Beyer.

In regards to claim 13, Beyer discloses a duct joining system comprising a first duct (12, 13) having a male end; a flexible seal and locking mechanism (15) retained on the male end of the first duct (after insertion); and a flexible duct (10, 11) that may be joined to the first duct by sliding the flexible duct over the flexible seal and locking mechanism, the flexible seal and locking mechanism expanding within the flexible duct to form both a seal and a mechanical lock that provides resistance to the separation of the first duct and the flexible duct greater than a resistance to the joining of the first duct and the flexible duct.

In regards to claim 14, Beyer discloses the flexible seal and locking mechanism being a flexible gasket held on the male end at an angle relative to normal and away from the end of the first duct.

In regards to claim 17, Beyer discloses the first duct being a fitting.

In regards to claim 18, Beyer discloses an apparatus comprising a first duct; a second duct, wherein a portion of the first duct is inserted into a portion of the second duct; and means for providing a seal and a mechanical connection between the first duct and the second duct when the portion of the first duct is inserted into a portion of the second duct.

In regards to claim 19, Beyer discloses the second duct having a raised bead (11e) into which the means is seated to form the seal and the mechanical connection when the portion of the first duct is inserted into the portion of the second duct.

In regards to claim 20, Beyer discloses the first duct having a depressed bead (13c) into which the means is seated to form the seal and the mechanical connection when the portion of the first duct is inserted into the portion of the second duct.

In regards to claim 21, Beyer discloses the means being a flexible gasket.

In regards to claim 22, Beyer discloses the first duct having a first bead (13a), the flexible gasket being mounted closer to the front of the first duct than the first bead, the flexible gasket having an angle relative to normal of the first duct.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joslin.

In regards to claim 15, Joslin discloses the claimed invention except for the resistance to the separation of the first duct and the second duct being at least three times greater than the resistance to the joining of the first duct and the second duct. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a resistance to the separation of the first duct and the second duct

at least three times greater than the resistance to the joining of the first duct and the second duct, since the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

In regards to claim 27, Joslin discloses a duct joining system comprising a first duct including a member disposed on an exterior surface of the first duct about a cross-section thereof; and a second duct including a groove extending outward from an interior surface of the second duct about a cross-section thereof, so that when the first duct is inserted into the second duct and the member is in the groove a seal and a resistance to a separation of the first duct and the second duct greater than a resistance to the insertion of the first duct into the second duct is provided by the member and the groove.

In regards to claim 28, Joslin discloses the member comprising a flexible gasket that is at an angle relative to a normal of the first duct.

Claims 15, 27, 28, 34, 35 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beyer.

In regards to claim 15, Beyer discloses the claimed invention except for the resistance to the separation of the first duct and the second duct being at least three times greater than the resistance to the joining of the first duct and the second duct. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a resistance to the separation of the first duct and the second duct

at least three times greater than the resistance to the joining of the first duct and the second duct, since the optimization of proportions in a prior art device is a design consideration within the skill of the art. In re Reese, 290 F.2d 839, 129 USPQ 402 (CCPA 1961).

In regards to claim 27, Beyer discloses a duct joining system comprising a first duct including a member disposed on an exterior surface of the first duct about a cross-section thereof; and a second duct including a groove extending outward from an interior surface of the second duct about a cross-section thereof, so that when the first duct is inserted into the second duct and the member is in the groove a seal and a resistance to a separation of the first duct and the second duct greater than a resistance to the insertion of the first duct into the second duct is provided by the member and the groove.

In regards to claim 28, Beyer discloses the member comprising a flexible gasket that is at an angle relative to a normal of the first duct.

In regards to claim 34, Beyer discloses the member comprising a flexible gasket that is at an angle relative to a normal of the first duct.

In regards to claim 35, Beyer discloses the member flexing (minutely with vibrations) into the groove.

In regards to claim 37, Beyer discloses one of the first duct and the second duct being a fitting.

Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverman et al.

In regards to claims 24 and 26, Silverman et al discloses the claimed invention except for the member being a substantially triangular shape. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the member with a substantially triangular shape, since a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

### ***Allowable Subject Matter***

Claims 30 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure because it illustrates the current state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron M Dunwoody whose telephone number is (703)

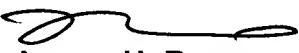
Art Unit: 3679

306-3436. The examiner can normally be reached on Monday - Friday between 7:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on (703) 308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9327 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.

.amd  
March 27, 2003



**Lynne H. Browne**  
Supervisory Patent Examiner  
Technology Center 3670